IN THE CLAIMS

1   1. (Currently Amended) A method for designing a system on a target device utilizing a

2   programmable logic devices (PLD) with an electronic automation design tool (EDA),

3   comprising:

4   having the EDA tool determine a first location on the PLD to place a user defined logic

5   region in response to user specified constraints for placement of the user defined logic region;

6   and

7   having the EDA tool determine a second location to place the user defined logic region,

8   wherein the second location is determined independent of the user specified constraints for

9   placement.

1   2. (Previously Presented) The method of Claim 1, wherein having the EDA tool

2   determine the second location is performed in response to the first location not satisfying design

3   parameters.

1   3. (Previously Presented) The method of Claim 1, wherein having the EDA tool

2   determine the second location is performed in response to the first location not satisfying the user

3   specified constraints.

1   4. (Currently Amended) ~~The method of Claim 1, wherein having the EDA tool~~

2   ~~determine the second location is performed~~A method for designing a system on a target device

3   utilizing a programmable logic device (PLD), comprising:

4   determining a first location on the PLD to place a user defined logic region in response

5   to user specified constraints for placement of the user defined logic region; and

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1   determining a second location to place the user defined logic region, wherein the second

2   location is determined independent of the user specified constraints for placement in response to

3   having a threshold number of ~~options~~first locations generated.

1   5. (Previously Presented) The method of Claim 1, wherein having the EDA tool

2   determine the second location is performed in response to a triggering event.

1   6. (Previously Presented) The method of Claim 1, further comprising determining

2   positions to place components within user defined logic regions on the target device.

1   7. (Previously Presented) The method of Claim 6, wherein determining positions to

2   place the components is an iterative procedure that includes:

3   selecting positions;

4   evaluating the positions with a cost function; and

5   accepting the positions if the cost function yields a desired value.

1   8. (Previously Presented) The method of Claim 6, wherein determining the positions

2   comprises removing constraints associated with the user defined logic regions.

1   9. (Previously Presented) The method of Claim 1, further comprising determining

2   routing resources to allocate to user specified signals on the target device in response to user

3   specified routing constraints.

1   10. (Original) The method of Claim 9, wherein determining routing resources is an

2   iterative procedure that includes:

3   selecting routing resources;

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1   determining whether routing resource selections satisfy the user specified routing

2   constraints; and

3   re-selecting routing resources if the routing resource selections do not satisfy the user

4   specified routing constraints.

1   11. (Previously Presented) The method of Claim 9, wherein re-selecting the routing

2   resources comprises determining routing resources to allocate to the user specified signals on the

3   PLD by removing the user specified routing constraints.

1   12. (Currently Amended) A method for positioning components of a system onto a

2   target device utilizing a programmable logic devices (PLDs) using an electronic design

3   automation tool, comprising:

4   having the EDA tool determine a first location on the PLD to place a user defined logic

5   region in response to user specified constraints for placement of the user defined logic region;

6   determining whether the user specified constraint is a soft constraint in response to the

7   system not satisfying timing; and

8   having the EDA tool determine a second location to place the user defined logic region,

9   wherein the second location is determined independent of the user specified constraints for

10   placement if the user specified constraint is a soft constraint.

1   13. (Previously Presented) The method of Claim 12, wherein determining the first

2   location to place the user defined logic region comprises:

3   assigning an initial location for the user defined logic region;

4   moving the user defined logic region to a new location; and

5   evaluating a cost function associated with the user defined logic region in the new

6   location.

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1   14. (Original) The method of Claim 13, wherein evaluating the cost function comprises:

2   determining a timing of the system associated with the user defined logic region in the

3   new location; and

4   determining routing resources requirements associated with the user defined logic region

5   in the new location.

1   15. (Currently Amended) The method of Claim 12, further comprising determining

2   possible locations to place a component in the user defined logic region ~~comprises~~that includes:

3   assigning an initial location for the component in the user defined logic region; and

4   evaluating a cost function as the user defined logic region and the component are moved.

1   16. (Previously Presented) The method of Claim 15, further comprising determining

2   possible locations to move the component from the possible locations to place the component

3   independent of the constraints associated with the user defined logic region.

1   17. (Currently Amended) The method of Claim 16, wherein determining possible

2   locations to move the component is performed in response to the possible locations to~~not

3   satisfying user specified constraints.

1   18. (Currently Amended) The method of Claim 12, wherein determining ~~possible~~

2   ~~locations to move the component~~the second location is performed in response to having a

3   threshold number of ~~possible~~first locations determined.

1   19. (Currently Amended) A method for designing a system on a programmable logic

2   devices (PLDs) using an electronic design automation (EDA) tool, comprising:

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1   having the EDA tool determine routing strategies for routing signals on the PLDs in

2   response to user specified routing constraints that pertain to categories of routing resources to

3   use; and

4   having the EDA tool determine additional routing strategies for routing the signals on the

5   PLDs where the additional routing strategies are independent of the user specified routing

6   constraints.

1   20. (Original) The method of Claim 19, wherein determining routing strategies for

2   routing the signals on the PLDs in response to user specified routing constraints comprises:

3   selecting routing resources for a user specified signal on the PLDs in response to the user

4   specified routing constraints; and

5   selecting routing resources for a non-user specified signal on the PLDs without utilizing

6   the user specified routing constraints.

1   21. (Original) The method of Claim 19, wherein determining additional routing

2   strategies for routing the signals comprises selecting routing resources for the user specified

3   signal on the PLDs independent of the user specified routing constraints.

1   22. (Original) The method of Claim 19, wherein determining additional routing

2   strategies for routing the signals is performed in response to the routing strategies not satisfying

3   user specified routing constraints.

1   23. (Original) The method of Claim 19, wherein determining additional routing

2   strategies for routing the signals is performed in response to the routing strategies not satisfying

3   design parameters.

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1   24. (Original) The method of Claim 19, wherein determining additional routing

2   strategies for routing the signals is performed in response to a threshold number of routing

3   strategies being determined.

1   25. (Previously Presented) A machine-readable medium having stored thereon

2   sequences of instructions, the sequences of instructions including instructions which, when

3   executed by a processor, causes the processor to perform:

4   determining a first location on a programmable logic device (PLD) to place a user

5   defined logic region in response to user specified constraints for placement of the user defined

6   logic region; and

7   determining a second location to place the user defined logic region wherein the second

8   location is determined independent of the user specified constraints for placement.

1   26. (Previously Presented) The machine-readable medium of Claim 25, wherein

2   determining the second location is performed in response to the first location not satisfying

3   design parameters.

1   27. (Previously Presented) The machine-readable medium of Claim 25, wherein

2   determining the second location is performed in response to the first location not satisfying the

3   user specified constraints.

1   28. (Currently Amended) ~~The machine-readable medium of Claim 25, wherein~~

2   ~~determining the second location is performed~~A machine-readable medium having stored thereon

3   sequences of instructions, the sequences of instructions including instructions which, when

4   executed by a processor, causes the processor to perform:

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1   determining a first location on a programmable logic device (PLD) to place a user

2   defined logic region in response to user specified constraints for placement of the user defined

3   logic region; and

4   determining a second location to place the user defined logic region wherein the second

5   location is determined independent of the user specified constraints for placement in response to

6   having a threshold number of first locations determined.

1   29. (Previously Presented) The machine-readable medium of Claim 25, wherein

2   determining the second location is performed in response to a triggering event.

1   30. (Currently Amended) The machine-readable medium of Claim 25, further

2   comprising determining locations to place components within user-defined logic regions on the

3   target device.

1   31. (Currently Amended) The machine-readable medium of Claim 30, further

2   comprising determining locations to place the components on the target device by removing

3   constraints associated with the user-defined logic regions.

1   32. (Previously Presented) The machine-readable medium of Claim 25, further

2   comprising determining routing resources to allocate to user specified signals on the target

3   device in response to user specified routing constraints.

1   33. (Previously Presented) The machine-readable medium of Claim 32, further

2   comprising ignoring the user specified routing constraints.

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